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OFFICE

**Focus Report**  
New Chemicals Program  
PMN Number: P-10-0326

Focus Date: 04/29/2010 12:00:00 AM

Report Status: Completed

Consolidated Set:

Focus Chair: Tracey Klosterman

Contractor: Paul Sohi

**I. Notice Information**

Submitter: [REDACTED]

CAS Number: 431-63-0

Chemical Name:

Propane, 1,1,1,2,3,3-hexafluoro-

Use:

Chemical intermediate [REDACTED]

Other Uses: [REDACTED]

PV-Max:

Manufacture:

X

Import:

**II. SAT Results**

(1) Health Rating: 1-2

Eco Rating: 2

Comments: [REDACTED]

Occupational: 2-3B

Non-Occupational:

Environmental: 3 [REDACTED]

(1) PBT: 3 1

1

Comments: [REDACTED]

**III. OTHER FACTORS**

**Categories:**

Health Chemical Category:

Ecotox Category: neutral organic

**Related Cases/Regulatory History:**

Health related Cases: [REDACTED]

Ecotox Related Cases:

Analogs: [REDACTED]

Regulatory History:

[REDACTED]

**MSDS/Label Information:**

MSDS:

Yes

Label: No

General Equipment:

Use only with adequate ventilation. Wear safety glasses or coverall chemical splash goggles and rubber or neoprene gloves.

Respirator:

NIOSH/MSHA-approved respirator if exposure limits exceeded.

Health Effects:

Overexposure by skin or eye contact may include frostbite. Intentional inhalation abuse or misuse of this substance may result in dizziness in coordination, other central nervous system effects, tightness of the chest, heart palpitation, and potentially fatal cardiac arrhythmia.

TLV/PEL (PMN or raw material).

- 1,1,1,2,3,3-hexafluoropropane (CAS # 431-63-0) - 100 % - 8-hr and 12-hr TWA - [REDACTED] AEL

**Exposure Based Information:**

Exposure Based Review:

N

Exposure Based Review (Eco):

N

Exposure Based Review

(Non Occupational):

Exposure Based Review (Health):

Exposure Based (Occupational): No

Exposure Based (Environmental):



5 0 1 0 0 0 0 3 5 7 2

#### **IV. Summary of SAT Assessment**

##### **Fate:**

###### **Fate Summary:**

Gas  
log Kow = 1.91 (E)  
S = 1.93 g/L at 25 °C (M)  
VP = 1507 torr at 25 °C (NOMOS)  
BP = 6 °C (M)  
H = 8.05 (E)  
log Koc = 2.61 (E)  
log Fish BCF = 0.92 (E)  
log Fish BAF = 0.95 (E)  
POTW removal (%) ≥ 90 via stripping  
Time for complete ultimate aerobic biodeg > mo  
Sorption to soils/sediments = low  
Volatilization half-life from a standard river = 1 hrs  
Volatilization half-life from a standard lake = 5 da  
Atmospheric Oxidation Half-life = 24000 hr via OH radical  
PBT Potential: P3B1  
\*CEB FATE: Migration to ground water = rapid

##### **Health:**

###### **Health Summary:**

The PMN substance is a gas, as such, under ordinary conditions there should be no absorption through the skin or from the GI tract (pchem); absorbed from the lung (test data). Concern for neurotoxicity, cardiac sensitization, and male reproductive toxicity based on submitted test data.

###### **Test Data:**

(-) Salmonella with and without activation; (-) E. coli with and without activation; (-) inhalation mouse micronucleus assay; (-) in a human lymphocyte assay with and without activation; rat 2-week inhalation NOEC = 5000 ppm, altered response to alerting stimulus at 20,000 and 50,000 ppm; dog cardiac sensitization NOEL = 2.5%, LOEL = 3.5%, 2/5 died at 10% (8E-13288), rat inhalation LC50 = 85,000 ppm, narcosis at 24,000 ppm and higher (8E-12701: acute NOEC = 14,000 ppm); rat inhalation developmental NOEC = 50,000 ppm, maternal NOEC = 5000 ppm (8E-13517); rat 14-week (90-day) inhalation NOEC = 5000 ppm, effects on testes at 50,000 ppm, change in response to alerting stimulus at 20,000 and 50,000 ppm (8E-13486)

[REDACTED]

[REDACTED] = [REDACTED]

##### **Ecotox:**

###### **Ecotox Values:**

Fish 96-h LC50:	140(P)
Daphnid 48-h LC50:	79(P)
Green algal 96-h EC50:	36(P)
Fish Chronic Value:	15(P)
Daphnid ChV:	9.0(P)
Algal ChV:	14(P)

###### **Ecotox values comments:**

Predictions are based on SARs neutral organic compounds; SAR chemical class = hydrofluorocarbon; MW 152; gas with unknown mp; S = 420 mg/L at 20 °C (P), pH7, effective concentrations based on 100% active ingredients and mean measured concentrations; hardness <150.0 mg/L as CaCO<sub>3</sub>; and TOC <2.0 mg/L;

###### **Ecotox Factors:**

Assessment Factor:	10
Concern Concentration:	900

## V. Summary of Exposures/Releases

Engineering Summary: P-10-0326

Exposures/Releases	Release	Release	Release
Scenario	Manufacturing (Manufacture of a Site-Limited Intermediate)	Manufacturing (Manufacture of a Site-Limited Intermediate)	Manufacturing (Manufacture of a Site-Limited Intermediate)
Sites			
Media			
Descriptor A	Output 2	Output 2	Output 2
Quantity A (Release = kg/site/day, Exposure = mg/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (Release = kg/site/day, Exposure = mg/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

Engineering Summary: Exposures/Releases	Release	Release	Release
Scenario	Processing (Use of PMN as an Intermediate): P10-0326	Processing (Use of PMN as an Intermediate): P10-0326	Processing (Use of PMN as an Intermediate): P10-0326
Sites			
Media			
Descriptor A	Output 2	Output 2	Output 2
Quantity A (Release = kg/site/day; Exposure = mg/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (Release = kg/site/day, Exposure = mg/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

## V. Summary of Exposures/Releases

Engineering Summary: P-10-0326

Exposures/Releases	Release	Exposure	Exposure
Scenario	Processing (Use of PMN as an Intermediate): P10-0326 [REDACTED]	Manufacturing (Manufacture of a Site-Limited Intermediate)	Processing (Use of PMN as an Intermediate): P10-0326 [REDACTED]
Sites	[REDACTED]	[REDACTED]	[REDACTED]
Media	[REDACTED]	[REDACTED]	[REDACTED]
Descriptor A	Output 2	Output 2	Output 2
Quantity A (Release = kg/site/day; Exposure = mg/day)	[REDACTED]	[REDACTED]	[REDACTED]
Frequency A (day/year)	[REDACTED]	[REDACTED]	[REDACTED]
Descriptor B			
Quantity B (Release = kg/site/day; Exposure = mg/day)			
Frequency B (day/year)			
From	[REDACTED]		
Workers			
Exposure Type			

Engineering Summary: Exposures/Releases	Release	Release	Release
Scenario	Manufacturing (Manufacture of a Site-Limited Intermediate)	Manufacturing (Manufacture of a Site-Limited Intermediate)	Manufacturing (Manufacture of a Site-Limited Intermediate)
Sites	[REDACTED]	[REDACTED]	[REDACTED]
Media	[REDACTED]	[REDACTED]	[REDACTED]
Descriptor A	[REDACTED]	[REDACTED]	[REDACTED]
Quantity A (Release = kg/site/day, Exposure = mg/day)	[REDACTED]	[REDACTED]	[REDACTED]
Frequency A (day/year)	[REDACTED]	[REDACTED]	[REDACTED]
Descriptor B			
Quantity B (Release = kg/site/day; Exposure = mg/day)			
Frequency B (day/year)			
From	[REDACTED]		
Workers			
Exposure Type			

## V. Summary of Exposures/Releases

Engineering Summary: P-10-0326

Exposures/Releases	Exposure	Release	Release
<b>Scenario</b>	<b>Manufacturing (Manufacture of a Site-Limited Intermediate)</b>	<b>Processing (Use of PMN as an Intermediate): P10-0326</b>	<b>Processing (Use of PMN as an Intermediate): P10-0326</b>
<b>Sites</b>			
<b>Media</b>			
<b>Descriptor A</b>	Output 2	Output 2	Output 2
Quantity A (Release = kg/site/day; Exposure = mg/day)			
Frequency A (day/year)			
<b>Descriptor B</b>			
Quantity B (Release = kg/site/day; Exposure = mg/day)			
Frequency B (day/year)			
<b>From</b>			
<b>Workers</b>			
<b>Exposure Type</b>			

Engineering Summary: Exposures/Releases	Release	Release	Exposure
<b>Scenario</b>	<b>Processing (Use of PMN as an Intermediate): P10-0326</b>	<b>Processing (Use of PMN as an Intermediate): P10-0326</b>	<b>Processing (Use of PMN as an Intermediate): P10-0326</b>
<b>Sites</b>			
<b>Media</b>			
<b>Descriptor A</b>	Output 2	Output 2	Output 2
Quantity A (Release = kg/site/day; Exposure = mg/day)			
Frequency A (day/year)			
<b>Descriptor B</b>			
Quantity B (Release = kg/site/day, Exposure = mg/day)			
Frequency B (day/year)			
<b>From</b>			
<b>Workers</b>			
<b>Exposure Type</b>			

## **V. Summary of Exposures/Releases**

Engineering Summary:

<b>Exposures/Releases</b>			
<b>Scenario</b>			
<b>Sites</b>			
<b>Media</b>			
Descriptor A			
Quantity A (Release = kg/site/day; Exposure = mg/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (Release = kg/site/day, Exposure = mg/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

## **VI. Focus Decision and Rationale**

### **Regulatory Actions**

Regulatory Decision: PMN Standard Review

Decision Date: 04/29/2010

Type of Decision:

Rationale:

P-10-0326 will be placed into standard review for potential human health risks. A full team and schedule is required. The standard review will include review of submitted test data. The Focus Group noted that the Program Manager should also coordinate with the SNAP program as the PMN could be used as [REDACTED]. The PMN substance is a gas, as such, under ordinary conditions there should be no absorption through the skin or from the GI tract and the PMN substance will be absorbed from the lung due to information provided in the test data. There is also a concern for neurotoxicity, cardiac sensitization, and male reproductive toxicity based on submitted test data. An MOE of 10 was estimated for inhalation exposures. Potential risks to the environment were low due to no expected releases to water. The 900 ppb chronic COC and the 9,000 ppb acute COC were based on SAR analysis for neutral organics.

#### Summary of Exposures and Releases

##### Manufacturing (Manufacture of a Site-Limited Intermediate)

[REDACTED]

Dermal: not required, per SAT.

[REDACTED]

##### Processing (Use of PMN as an Intermediate): P10-0326 [REDACTED]

[REDACTED]

Dermal: not required per SAT.

[REDACTED]

##### Fate: Combined Manufacturing and Processing

[REDACTED]

P2 Rec Comments:

### **Testing:**

### **Final Recommended:**

Health:

Eco:

Fate:

Other: